BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

As rescanning documents *will not* correct images, please do not report the images to the Image Problem Mailbox.

(19)日本国特許庁（ＪＰ）　(12)公開特許公報（A）　(11)特許出願公開番号
特開平11－249839
(43)公開日　平成11年(1999)９月17日

(51)Int.Cl.[6]	識別記号	ＦＩ	
Ｇ０６Ｆ　3/12		Ｇ０６Ｆ　3/12	Ｄ

審査請求　未請求　請求項の数４　ＯＬ　（全６頁）

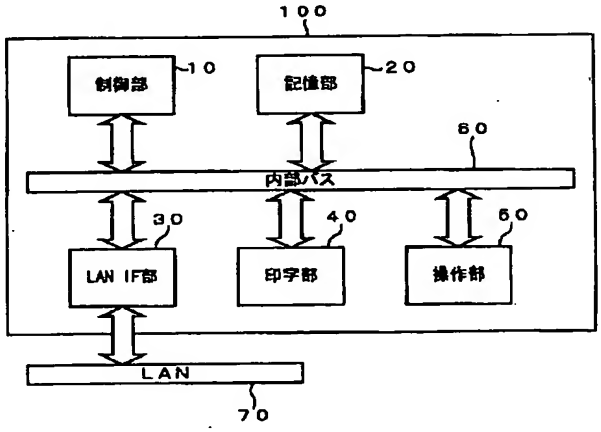
(21)出願番号　特願平10－45543

(22)出願日　平成10年(1998)２月26日

(71)出願人　000005496
富士ゼロックス株式会社
東京都港区赤坂二丁目17番22号
(72)発明者　天野　泰
神奈川県海老名市本郷2274番地　富士ゼロックス株式会社内
(74)代理人　弁理士　川▲崎▼　研二

(54)【発明の名称】　印刷装置

(57)【要約】
【課題】　新たにネットワークに接続された際、動作状態を決める設定情報を、容易にかつ所望する内容に設定できるようにする。
【解決手段】　新たにネットワーク７０に接続された印刷装置１００では、電源が投入されると、制御部１０が記憶部２０のＲＯＭに記憶されている制御プログラムに従って動作を開始し、同一設定機能がＯＦＦである場合には、記憶部２０のＮＶＲＡＭに格納されている既存の設定情報に従って印刷装置１００を起動する。一方、同一設定がＯＮである場合には、制御部１０は、ＬＡＮインターフェース部３０を介して既に起動されている他の印刷装置に対し、設定情報の送信要求を行う。そして、他の印刷装置から送信されてくる設定情報を記憶部２０にあるＮＶＲＡＭの指定アドレスに書き込んだ後、書き込んだ設定情報に従って印刷装置１００を再起動する。



1

【特許請求の範囲】
【請求項１】　ジョブ実行に必要な設定情報を取得すべき、ネットワークに接続された他装置を選択する選択手段と、
前記選択手段によって選択された他装置の設定情報を取得する取得手段と、
前記取得手段によって取得した他装置の設定情報に従って自装置の動作状態を設定する設定手段とを具備することを特徴とする印刷装置。
【請求項２】　前記取得手段は、
ネットワーク上の他装置に対し、ジョブ実行に必要な設定情報の送信要求を行う要求手段と、
前記要求手段による設定情報の送信要求に対する他装置からの設定情報を受信する受信手段とを具備することを特徴とする請求項１記載の印刷装置。
【請求項３】　前記設定手段は、予め設定された設定情報を記憶する記憶手段を備え、前記取得手段によって、他装置から設定情報を取得できない場合、前記記憶手段に予め記憶されている設定情報に従って動作状態を設定することを特徴とする請求項１または２記載の印刷装置。
【請求項４】　ネットワークに接続された他装置からのジョブ実行に必要な設定情報の送信要求を受信する受信手段と、
前記受信手段によって設定情報の送信要求を受信すると、送信元の他装置に対して自装置の設定情報を送信する送信手段とを具備することを特徴とする印刷装置。
【発明の詳細な説明】
【０００１】
【発明の属する技術分野】この発明は、ＬＡＮ等のネットワークに接続された印刷装置に係り、特に、新たにネットワークに接続された場合に他の印刷装置と同一の印刷設定内容で動作する印刷装置に関する。
【０００２】
【従来の技術】複数の印刷装置に対して同一の印刷設定を行う場合、その設定操作の負荷を軽減する方法として、公知の技術としては以下のものが知られている。例えば、特開平６－１５９１１には、印刷装置にバーコードの認識を可能にさせることにより、バーコード入力による設定操作の簡易化を図る技術が開示されている。また、特開平６－３４０１４２では、出力装置に対してカートリッジを着脱可能な構成にし、カートリッジ内部に制御情報および指示情報を記憶させる。そして、出力装置からカートリッジの情報をダウンロードし、その情報に基づいて出力装置の設定等の制御を行うという設定方法が開示されている。さらに、特開平８－１９７８１３では、設定情報を管理する印刷装置を１台指定させ、その印刷装置と通信可能な印刷装置を複数接続する。そして、指定の印刷装置の設定情報が変更された場合、その印刷装置に接続されている印刷装置に対して自機の設定

2

と同様に自動変更することにより、設定操作の簡略化を図る方法が開示されている。
【０００３】
【発明が解決しようとする課題】多数の印刷装置をある場所にまとめて納品する場合には、納品先で使用したい環境に合わせるために、それぞれの印刷装置の設定を全て同機の設定にする必要がある。しかしながら、従来技術では、例えば、カートリッジ等の外部記憶装置を用いて設定する方法では、設定を行う者が１台ずつ印刷装置にカートリッジを差し込んで設定を行う煩わしさがあった。特に、多数の印刷装置が離れた場所に配置される場合には、いくら設定操作が簡便になったといえども、その設定作業の際の移動などを考慮すると、全体として設定操作が軽減されたとは言えない。また、設定作業のために印刷装置本体にカートリッジ差込口等のハードデバイスを取り付けなければならず、印刷装置のサイズが大きくなってしまうことが考えられ、開発コストも増大する可能性があった。このことは、バーコード入力による設定方法についても同様である。
【０００４】また、複数の印刷装置の設定情報を指定の１台の印刷装置と同様に自動設定させる従来技術では、指定の印刷装置の印刷設定を変更すると、接続された他の印刷装置は全て自動的に変更されてしまう。このため、印刷装置の配置の移動などの印刷環境の変化により、他の印刷装置と同一設定であることに不都合が生じる場合、その印刷装置の設定情報を他の印刷装置それに依存させないようにするためには、印刷装置間の接続を外すといった作業を行わなければならず、操作が繁雑になるという問題があった。
【０００５】また、印刷装置を新たに設置する場合には、詳細な設定に関しては既に接続されている印刷装置の内容と同様にして、個別の設定に関しては、例えば参照するプリントキュー名だけのように、一部の設定項目だけを変更したいような場合が有り得る。しかしながら、従来技術では、既に設置されている印刷装置に接続させて同様の設定を行ってから、接続を解除し、所望する印刷装置の設定を変更しなければならず、操作が繁雑になるという問題があった。
【０００６】この発明は上述した事情に鑑みてなされたもので、新たにネットワークに接続された際、動作状態を決める設定情報を容易に、かつ所望する内容に設定することができる印刷装置を提供することを目的としている。
【０００７】
【課題を解決するための手段】上述した問題点を解決するために、この発明では、ジョブ実行に必要な設定情報を取得すべき、ネットワークに接続された他装置を選択する選択手段と、前記選択手段によって選択された他装置の設定情報を取得する取得手段と、前記取得手段によって取得した他装置の設定情報に従って自装置の動作状

3

態を設定する設定手段とを具備することを特徴とする。

【０００８】この発明によれば、ネットワークに接続されると、選択手段によって、ジョブ実行に必要な設定情報を取得すべき他装置を選択する。次に、取得手段によって、選択された他装置の設定情報を取得し、設定手段によって、取得した他装置の設定情報に従って自装置の動作状態を設定する。したがって、新たにネットワークに接続された際、動作状態を決める設定情報を、容易にかつ所望する内容に設定することが可能となる。特に、ネットワーク上に既に接続され、起動されている他の印刷装置の設定情報と同一にする場合、ユーザの操作を軽減することが可能となる。

【０００９】

【発明の実施の形態】次に図面を参照してこの発明の実施形態について説明する。

【００１０】Ａ．実施形態の構成

図１は本発明の実施形態による印刷装置の構成を示すブロック図である。図において、印刷装置１００は、制御部１０、記憶部２０、ＬＡＮインターフェース部３０、印字部４０および操作部５０から構成されている。制御部１０は、ＣＰＵ、内部バスＩＦなどを備え、印刷装置１００を構成する各デバイス全体の制御およびその状態を管理する。特に、ジョブ処理要求の発生時には、把握している各デバイスの状態から効率的にジョブ処理が可能となるよう各デバイスの制御を行う。

【００１１】記憶部２０は、ＲＯＭ、ＲＡＭおよびハードディスク等の記憶装置から構成されている。ＲＯＭは、制御部１０によって実行される処理および制御手順を記述したプログラムや設定情報を記憶し、データの読み出しのみが可能な不揮発性メモリである。制御部１０のＣＰＵは、印刷装置１００に電源が投入される度に、記憶部２０のＲＯＭから読み込んで印刷装置１００の起動を行う。また、ＲＡＭは、制御部１０のＣＰＵによるプログラムの実行時に作業用のメモリとして使用されたり、受信した印刷データを印刷可能なイメージデータに展開する場合に使用される。不揮発性ＲＡＭ（ＮＶＲＡＭ）は、印刷装置１００の使用用途に応じて設定される情報を記憶する。ＮＶＲＡＭは、書き込み可能な不揮発性メモリで、随時、ユーザの用途によって設定情報を変更することが可能で、電源を落としても書き込まれた内容は保持される。また、ハードディスクは、記憶容量が大であるので、印刷装置１００が複数の印刷データを格納するスプール機能を有する場合などにおいて使用される。

【００１２】ＬＡＮインターフェース部３０は、印刷装置１００とＬＡＮ（Local Area Network）７０とのインターフェースとして機能し、ネットワーク接続された外部装置とのデータ送受信を実現する。なお、データリンクプロトコルは、イーサネット、トークンリング等が存在するが、特に限定されるものではない。印字部４０

4

は、記憶部２０に展開されたイメージデータを読み出して印字を行う。操作部５０は、複数のボタンと表示画面によって構成され、印刷装置の各種設定を行う。内部バス６０は、制御部１０、記憶部２０、ＬＡＮインターフェース部３０、印字部４０、操作部５０等の各ユニットをバス接続し、印刷装置内部でのデータの送受信に用いられる。

【００１３】次に、図２は、上述した印刷装置が接続されたネットワーク構成を示す概念図である。図示するように、ネットワーク上には、少なくとも２台以上の印刷装置が接続されており、１台は、新たに接続された印刷装置１００ａであり、他の１台は、既に起動している印刷装置１００ｂである。新たに接続された印刷装置（設定情報要求元）１００ａは、既に起動している印刷装置（設定情報要求先）１００ｂの設定情報を獲得し、該獲得した設定情報と同じ設定を自機に対して行う。なお、印刷装置１００ａ、１００ｂとも、上述した図１に示す構成であるものとする。

【００１４】ここで、上述した設定情報とは、図３に示されるように、保守に関する情報、受信バッファサイズ、フォントキャッシュ等のメモリサイズに関する情報、およびシリアル、パラレル、ＮｅｔＷａｒｅ等の各種ネットワークインターフェースの起動およびその詳細設定に関する情報であり、印刷装置１００の印刷動作を決める情報である。

【００１５】Ｂ．実施形態の動作

次に、本実施形態の動作を説明する。ここで、図４は、上述した印刷装置（設定情報要求元）の動作を示すフローチャートである。新たにネットワーク７０に接続された後、印刷装置１００ａの電源が投入されると、制御部１０は、記憶部２０のＲＯＭに記憶されている制御プログラムに従って動作を開始する。制御部１０は、まず、ステップＳａ１で、同一設定がＯＮになっているか否かを判断する。同一設定がＯＮであるか否かは、記憶部２０のメモリ内の指定アドレス内の値を参照することによって判断される。また、同一設定機能のＯＮ／ＯＦＦは、印刷装置１００ａの操作部５０を操作して設定される。

【００１６】同一設定がＯＦＦである場合には、ステップＳａ１２に進み、記憶部２０のＮＶＲＡＭに格納されている既存の設定情報（例えば、工場出荷時の設定情報）を参照する。制御部１０は、ステップＳａ１０で、該既存の設定情報に従って印刷装置１００ａを起動する。

【００１７】一方、同一設定がＯＮである場合には、制御部１０は、ステップＳａ２で、接続されているネットワーク７０上に存在する他の印刷装置の検索を行う。ここで、印刷装置の検索方法としては、印刷装置が互いのアドレスをブロードキャストするような構成とし、ネットワーク７０上で起動している印刷装置のテーブルをそ

5

れぞれの印刷装置に管理させておき、印刷装置１００ａがネットワーク７０上の適当な印刷装置に問い合わせることにより、現在起動中の印刷装置を検索すればよい。

【００１８】上記ステップＳａ２において、ネットワーク７０上に存在する印刷装置の検索が完了すると、ステップＳａ３で、ネットワーク７０上で既に起動している印刷装置が存在するか否かを調べる。ここで、起動している印刷装置が存在しない場合には、制御部１０は、ステップＳａ１２へ進み、記憶部２０のＮＶＲＡＭに格納されている既存の設定情報を参照する。そして、ステップＳａ１０で、上記既存の設定情報に従って印刷装置１００を起動する。

【００１９】これに対して、起動している印刷装置が存在する場合には、ステップＳａ４で、操作部５０の表示装置により、ユーザに対して設定情報を獲得したい印刷装置を選択するように指示を出す。印刷装置を決定する方式としては、ユーザに任意の印刷装置を選択させる方法以外に、自動的に印刷装置１００ａが設定情報を参照すべき印刷装置を決定する方法がある。ユーザに選択させる方法では、検索した印刷装置のリストを印刷（または表示）し、対応付けられた印刷装置の番号をユーザに入力させるという方法が考えられる。また、自動的に印刷装置を決定する方法では、ユーザの要求する条件（例えば、起動させたいネットワークインターフェース等）を前もって登録しておき、条件を満たす印刷装置を自動的に決定するという方法が考えられる。さらには、ネットワーク７０に接続されたＰＣ（コンピュータ）からのリモート操作可能なアプリケーションにおいて、印刷装置を選択するようにすれば、印刷装置決定の操作性をさらに向上させることが可能である。

【００２０】ステップＳａ４において、設定情報参照先の印刷装置が選択されると（この場合、印刷装置１００ｂが選択されたとする）、ステップＳａ５で、該選択された印刷装置１００ｂのネットワークアドレスに基づいて、ＬＡＮインターフェース部３０を介して設定情報の送信要求を行う。次に、ステップＳａ６で、設定情報の送信要求に対する印刷装置１００ｂからの応答があったか否かを判断する。そして、設定情報の送信要求に対する応答がない場合には、ステップＳａ１１に進み、ユーザに応答がなかった旨、もしくは同一設定に失敗した旨を通知する。通知方法は、操作部５０の表示装置上に「同一設定に失敗しました」といったメッセージを表示したり、メッセージを印刷して出力すればよい。また、ＰＣのアプリケーションにおいて、失敗した旨のダイアログを表示させる方法も考えられる。さらに、ステップＳａ１１において、応答がなかったことをユーザに通知した後、ステップＳａ１２で、記憶部２０のＮＶＲＡＭに格納されている既存の設定情報を参照し、ステップＳａ１０で、上記既存の設定情報に従って印刷装置１００を起動する。

6

【００２１】一方、ステップＳａ５での設定情報の送信要求に対して印刷装置１００ｂから応答があった場合には、ステップＳａ７に進み、印刷装置１００ｂと接続を行う。次に、ステップＳａ８で、印刷装置１００ｂから送信されてくる設定情報を獲得する。そして、ステップＳａ９で、上記印刷装置１００ｂから獲得した設定情報に基づいて、印刷装置１００ａの設定を行う。設定は、印刷装置１００ａの記憶部２０にあるＮＶＲＡＭの指定アドレスに獲得した設定情報を書き込むことによって完了する。但し、ＮｅｔＷａｒｅインターフェースの装置名のように、ネットワーク７０上で重複した装置名の設定が許されない場合には、デフォルトの装置名を設定し、ＮｅｔＷａｒｅインターフェースが正常に起動しない可能性があることをユーザに通知する。

【００２２】通知方法としては、操作部５０の表示装置にその旨を表示するか、あるいは、その旨を記述した用紙を印刷すればよい。また、ＰＣのアプリケーションにおいては、ダイアログを表示させることにより通知し、ＮｅｔＷａｒｅインターフェースの装置名の変更が行われない限り、アプリケーションのＯＫボタンを選択することができないように設計すれば、誤った同一設定を防止することができ、その結果、操作性を向上させることができる。そして、ステップＳａ９における設定情報の設定が終了すると、ステップＳａ１０で、印刷装置の再起動を行い、設定値を有効にする。

【００２３】次に、図５は、印刷装置（設定情報要求先）の動作を示すフローチャートである。既に設定情報が設定され、ネットワーク７０上で起動している印刷装置（以下、図２の印刷装置１００ｂとして説明）では、図５に示すフローチャートに従って動作する。

【００２４】既にネットワーク７０に接続されている印刷装置１００ｂでは、電源が投入されると、ステップＳｂ１で、記憶部２０のＲＯＭに記憶されている制御プログラムに従って動作を開始する。制御プログラムは、記憶部２０のＮＶＲＡＭに格納されている設定情報（図３を参照）に基づいて、印刷装置１００ｂを起動する。次に、ステップＳｂ２で、同一設定機能がＯＮになっているか否かを判断する。ここで、同一設定機能がＯＦＦである場合には、同ステップＳｂ２を繰り返し実行する。ここで、印刷装置１００ｂは、通常起動状態であり、常に、同一設定機能のＯＮ／ＯＦＦを参照しながらも、当該印刷装置１００ｂに対して印刷要求が発生した場合には印刷ジョブを実行する。

【００２５】一方、同一設定機能がＯＮである場合には、ステップＳｂ３に進み、設定情報の送信要求があるか否かを判断する。ここで、印刷装置１００ｂは、ネットワーク７０上に新たに接続された印刷装置（図２の場合、印刷装置１００ａ）によってブロードキャストされる設定情報の送信要求パケットを受信したときに、設定情報の送信要求があったと判断する。ステップＳｂ３で

7

設定情報の送信要求を受信すると、ステップＳｂ４に進み、パケットを解析し、送信要求を行った印刷装置（図２の場合、印刷装置１００ａ）のネットワーク７０上のアドレスを獲得し、該獲得したアドレスに従って、印刷装置１００ｂ自身の記憶部２０のＮＶＲＡＭに格納されている設定情報を送信する。その後、ステップＳｂ２に戻り、上述した動作を繰り返し実行する。

【００２６】

【発明の効果】以上、説明したように、この発明によれば、ネットワークに接続されると、選択手段によって、ジョブ実行に必要な設定情報を取得すべき他装置を選択した後、取得手段によって、選択された他装置の設定情報を取得し、次いで、設定手段によって、取得した他装置の設定情報に従って自装置の動作状態を設定するようにしたので、新たにネットワークに接続された際、動作状態を決める設定情報を、容易にかつ所望する内容に設定することができるという利点が得られる。特に、ネットワーク上に既に接続され、起動されている他の印刷装置の設定情報と同一にする場合、ユーザの操作を軽減することができるという利点が得られる。

8

【図面の簡単な説明】

【図１】　本発明の実施形態による印刷装置の構成を示すブロック図である。

【図２】　ネットワーク構成を示す概念図である。

【図３】　設定情報の内容を示す概念図である。

【図４】　設定情報の送信要求元となる印刷装置の動作を説明するためのフローチャートである。

【図５】　設定情報の送信要求先となる印刷装置の動作を説明するためのフローチャートである。

【符号の説明】

１０　制御部（取得手段、設定手段、要求手段、受信手段、送信手段）

２０　記憶部（記憶手段）

３０　ＬＡＮインターフェース部（要求手段、受信手段、送信手段）

４０　印字部

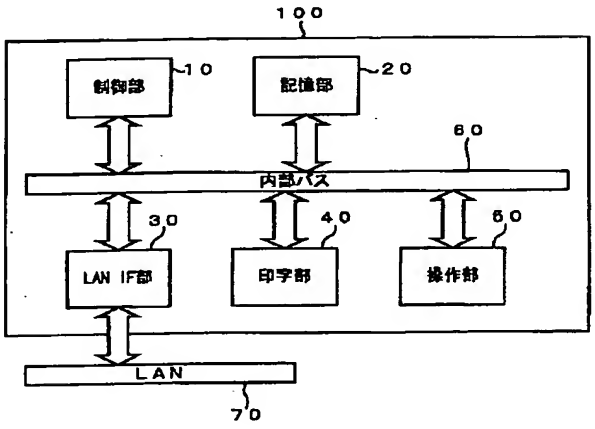
５０　操作部（選択手段）

６０　内部バス

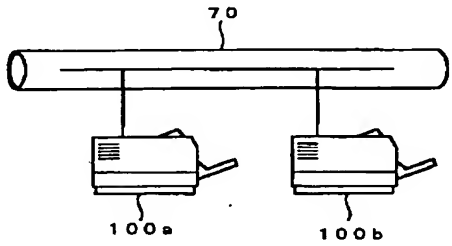
７０　ネットワーク

１００，１００ａ，１００ｂ　印刷装置

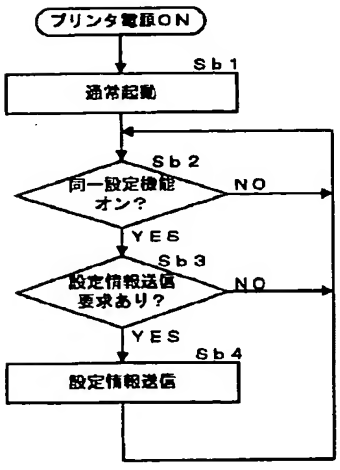
【図１】



【図２】



【図５】



【図３】

保守設定

設定項目		設定値
スタートページ		ＯＦＦ
ジャムリカバリ		ＯＮ
プリント履歴自動排出		ＯＦＦ
IPX/SPX 設定	動作フレームタイプ	ＡＵＴＯ
	プリンタ管理エージェント	停止

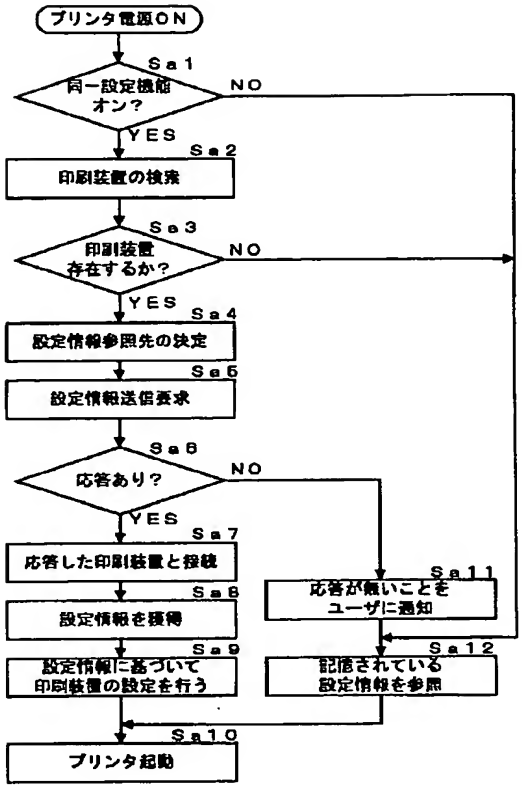
メモリ設定

設定項目		設定値
フォントキャッシュメモリ		１２８０KByte
受信バッファメモリ	パラレル	６４KByte
	Ｉｐｄ	１．０MByte
	ＮｅｔＷａｒｅ	６４KByte
	ＡｐｐｌｅＴａｌｋ	６４KByte

インターフェース設定

設定項目			設定値
シリアル	起動		ＯＦＦ
パラレル	起動		ＯＮ
	Ａｄｏｂｅ通信プロトコル		Standard
	自動排出時間		３０秒
	双方向モード		ＯＮ
ＮｅｔＷａｒｅ	起動		ＯＮ
	動作モード		ﾊﾞｲﾝﾃﾞｨ:Pserverモード
	装置名		FX PRINTER
	ファイルサーバ名		FileServerName
Ｉｐｄ	起動		ＯＮ
	トランスポートプロトコル	TCP/IP	ＯＮ
		IPX/SPX	ＯＦＦ
		IPX/SPX	ＯＮ
EtherTalk	フォントキャッシュメモリ		ＯＦＦ

【図４】



PRINTER

Patent Number: JP11249839
Publication date: 1999-09-17
Inventor(s): AMANO YASUSHI
Applicant(s): FUJI XEROX CO LTD
Requested Patent: ☐ JP11249839
Application Number: JP19980045543 19980226
Priority Number(s):
IPC Classification: G06F3/12
EC Classification:
Equivalents:

Abstract

PROBLEM TO BE SOLVED: To easily set setting information for determining an operating state as desired in the case of being newly connected to a network.
SOLUTION: When a power source is turned on in a printer 100 newly connected to a network 70, a control part 10 starts operation according to a control program stored in the ROM of a storage part 20, and when the same setting function is turned off, the printer is activated according to setting information stored in the NVRAM of the storage part 20. When the same setting is turned on, on the other hand, the control part 10 requests transmission of the setting information to some other printer activated already through a LAN interface part 30. After the setting information transmitted from the other printer is written in a designated address of the NVRAM in the storage part 20, the printer 100 is activated again according to the written setting information.

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 11-203087
(43)Date of publication of application : 30.07.1999

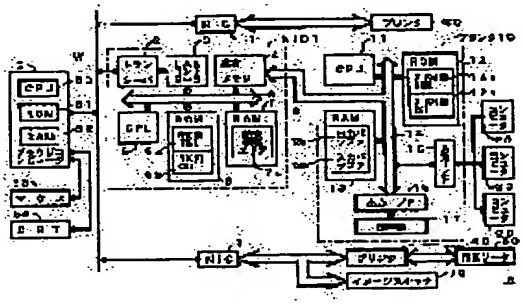
1)Int.Cl. G06F 3/12
G06F 13/00
G06F 15/00

1)Application number : 10-008113
2)Date of filing : 19.01.1998

(71)Applicant : BROTHER IND LTD
(72)Inventor : FUNAHASHI HIROYUKI

4) NETWORK SYSTEM, TERMINAL EQUIPMENT AND STORAGE MEDIUM

7)Abstract:
ROBLEM TO BE SOLVED: To efficiently obtain information of terminal quipments without using a server computer in a network system provided ith plural terminal equipments connected to the network and a anagement device managing the respective terminal equipments through ıe network.
OLUTION: In this network system S, respective printers 10 being the :rminal equipments obtain information of the other printers 30,40 and the ‹e from the other printer connected through the network W and transmit ıe obtained information to a browser computer G being a management evice together with its own information. Thus, the browser computer G an obtain information of the other printers together with information of ıe printer only by obtaining information from one printer. The network ystem S can efficiently obtain information of the printer without using ıe server computer.



EGAL STATUS
Date of request for examination]
Date of sending the examiner's decision of rejection]
Kind of final disposal of application other than the xaminer's decision of rejection or application converted egistration]
Date of final disposal for application]
Patent number]
Date of registration]
Number of appeal against examiner's decision of ejection]
Date of requesting appeal against examiner's decision f rejection]
Date of extinction of right]

NOTICES *

This document has been translated by computer.So the translation may not reflect the original precisely.
**** shows the word which can not be translated.
In the drawings, any words are not translated.

LAIMS

:laim(s)]
:laim 1] The network system equipped with two or more terminal units which are characterized by providing the ıllowing and which were connected to the network, and the management equipment which manages each of this rminal unit through the above-mentioned network. An information acquisition means by which at least one specific rminal unit acquires the information on these terminal units of other from other terminal units connected through the ›ove-mentioned network among the above-mentioned terminal units. An information transmitting means to transmit e information on a terminal unit besides the above acquired by this information acquisition means to the above-entioned management equipment with information of a specific terminal unit own [the].
:laim 2] The network system according to claim 1 characterized by the information on a terminal unit besides the ›ove including the link information for specifying the terminal unit on the above-mentioned network.
:laim 3] The network system [equipped with at least two or more above-mentioned specific terminal units ıaracterized by providing the following] according to claim 1 or 2. A terminal unit selection means by which the ›ove-mentioned management equipment chooses one specific terminal unit. The information-requirements means to hich the information on each above-mentioned terminal unit which contains self in the information transmitting eans of the above-mentioned specific terminal unit chosen with this terminal unit selection means is made to ansmit, and the selection change means which changes the above-mentioned specific terminal unit which the above-entioned terminal unit selection means chooses.
:laim 4] It is the network system according to claim 1 to 3 which connected at least one specific terminal unit A to the ›ove-mentioned network through the interface device among the above-mentioned specific terminal units. When the ›ecific terminal unit A transmits [the above-mentioned management equipment] the information on each above-entioned terminal unit to the above-mentioned management equipment, The network system characterized by having ı interface information acquisition means to acquire the information on the above-mentioned interface device to the terface device connected to the specific terminal unit A.
:laim 5] The network system according to claim 1 to 4 characterized by equipping the above-mentioned management ıuipment with a setting change means to change a setup of the specific terminal unit or an interface device, further to e specific terminal unit or interface device which has transmitted the above-mentioned information to the anagement equipment.
:laim 6] The terminal unit characterized by to have an information acquisition means are two or more of other rminal units and the connected terminal unit, and acquire the information on these terminal units of other from other rminal units connected through the above-mentioned network, and an information transmitting means transmit the ıformation on a terminal unit besides the above acquired by this information acquisition means to the above-ıentioned network with information of a terminal unit own [the], through a network.
:laim 7] The terminal unit according to claim 6 characterized by the information on a terminal unit besides the above ıcluding the link information for specifying the terminal unit on the above-mentioned network.
:laim 8] The storage characterized by memorizing the software program for operating a computer as each means the aims 3 and 4 which constitute the above-mentioned management equipment, or given in five.

---

ranslation done.]

NOTICES *

This document has been translated by computer. So the translation may not reflect the original precisely.
**** shows the word which can not be translated.
In the drawings, any words are not translated.

ETAILED DESCRIPTION

)etailed Description of the Invention]
001]
he technical field to which invention belongs] this invention relates to the network system equipped with two or
)re terminal units connected to the network, and the management equipment which manages each of this terminal
it through the above-mentioned network, the terminal unit which can constitute the network system, and a storage.
002]
)escription of the Prior Art] Conventionally, the network system which manages two or more printers as a terminal
it by one computer as management equipment as this kind of a network system is known. In this network system, the
uation of each printer of operation, the state of failure, etc. are intensively manageable by one above-mentioned
mputer. For this reason, when a printer is fixed efficiently or it becomes impossible using one set of a printer, it can
anage so that other printers may be substituted for this.
003] When checking the situation of each printer of operation etc. in this kind of network system, the computer
ich is managing needed to carry the leg and efficiency was bad. Then, a server computer is connected to a network
d it is possible to collect the information on each terminal unit by this server computer. In this case, by
mmunicating with a server computer, management equipment can acquire the information on all terminal units, and
n attain increase in efficiency and speeding up of processing.
004]
roblem(s) to be Solved by the Invention] However, if a server computer is used, the composition of a network system
ll be complicated and the installation cost of the network system will increase. Then, this invention was made for the
rpose of acquiring the information on a terminal unit efficiently in the network system equipped with two or more
minal units connected to the network, and the management equipment which manages each of this terminal unit
rough the above-mentioned network, without using a server computer.
005]
. The means for solving a technical problem and an effect of the invention] Invention according to claim 1 made
ce the above-mentioned purpose was attained Two or more terminal units connected to the network, and the
anagement equipment which manages each of this terminal unit through the above-mentioned network, An
formation acquisition means by which are a ******** network system and at least one specific terminal unit acquires
e information on these terminal units of other from other terminal units connected through the above-mentioned
twork among the above-mentioned terminal units, It is characterized by having an information transmitting means to
nsmit the information on a terminal unit besides the above acquired by this information acquisition means to the
ove-mentioned management equipment with information of a specific terminal unit own [the].
006] Thus, in the constituted this invention, a specific terminal unit transmits the information on a terminal unit
sides the above acquired by the information acquisition means to management equipment with information of a
ecific terminal unit own [the] by the information transmitting means while acquiring the information on these
minal units of other from other terminal units connected through the network by the information acquisition means.
007] For this reason, with management equipment, the information on a terminal unit besides the above is also
quirable with the information on the specific terminal unit only by acquiring information from a specific terminal
it. Therefore, in this invention, the information on a terminal unit can be acquired efficiently, without using a server
mputer. In addition, a specific terminal unit must not acquire all the information on the terminal units of the others
nnected through the network, and may acquire the information on some terminal units. For example, you may make
some printers acquire the information on all the scanners of others [scanners / some] for the information on all other
inters, respectively by the system which connected two or more printers and two or more scanners to the network as
erminal unit.

·008] In addition to composition according to claim 1, invention according to claim 2 is characterized by the formation on a terminal unit besides the above including the link information for specifying the terminal unit on the ›ove-mentioned network. Here, link information is information which shows the whereabouts of the information on e terminal unit for specifying the terminal unit on a network, as a link information and URL are mentioned as an :ample. If even such link information is known, based on the link information, the detailed information on a terminal ıit is easily acquirable. For this reason, when it includes link information as information on other terminal units, the nount of information which the information acquisition means of a terminal unit must acquire, and the amount of formation which an information transmitting means must transmit can be reduced. Therefore, in this invention, in ldition to an effect of the invention according to claim 1, the amount of information processing of an information :quisition means and an information transmitting means is mitigated further, and the effect that the processing speed ın be raised further arises.

·009] A terminal unit selection means by which invention according to claim 3 is the network system [equipped with least two or more above-mentioned specific terminal units] according to claim 1 or 2, and the above-mentioned anagement equipment chooses one specific terminal unit, It is characterized by having the information-requirements eans to which the information on each above-mentioned terminal unit which contains self in the information ansmitting means of the above-mentioned specific terminal unit chosen with this terminal unit selection means is ade to transmit, and the selection change means which changes the above-mentioned specific terminal unit which the ›ove-mentioned terminal unit selection means chooses.

·010] The network system is equipped with two or more specific terminal units by this invention, and management ıuipment can make the information on each above-mentioned terminal unit which contains self in the information ansmitting means of the specific terminal unit transmit by the information-requirements means while choosing one ›ecific terminal unit by the terminal unit selection means. Moreover, the specific terminal unit which the above-entioned terminal unit selection means chooses can also be changed by the selection change means. For this reason, ere is comparatively little amount of information mutually acquired between specific terminal units, and it ends. That , a desired specific terminal unit is chosen by the terminal unit selection means or the selection change means if :eded, and detailed information can be acquired by the selection.

·011] Therefore, in this invention, in addition to an effect of the invention according to claim 1 or 2, the amount of formation processing of an information acquisition means and an information transmitting means is mitigated further, ıd the effect that the processing speed can be raised further arises. Invention according to claim 4 at least one specific rminal unit A among the above-mentioned specific terminal units When it is the network system according to claim 1 3 which connected with the above-mentioned network through the interface device and the specific terminal unit A ansmits [the above-mentioned management equipment] the information on each above-mentioned terminal unit to e above-mentioned management equipment, It is characterized by having an interface information acquisition means acquire the information on the above-mentioned interface device to the interface device connected to the specific rminal unit A.

·012] In this invention, management equipment can acquire the information on an interface device to the interface :vice connected to the above-mentioned specific terminal unit A by the interface information acquisition means. For is reason, in addition to an effect of the invention according to claim 1 to 3, in this invention, the effect that anagement of an interface device becomes easy arises. Therefore, upgrade of a terminal unit etc. can be performed :ry easily.

·013] In addition to composition according to claim 1 to 4, invention according to claim 5 is characterized by ıuipping the above-mentioned management equipment with a setting change means to change a setup of the specific rminal unit or an interface device, further to the specific terminal unit or interface device which has transmitted the ›ove-mentioned information to the management equipment.

·014] In this invention, management equipment can change a setup of the specific terminal unit or an interface device to the management equipment by the setting change means to the specific terminal unit or interface device which has ansmitted information. For this reason, it becomes possible to manage the above-mentioned specific terminal unit or ı interface device by remote operation.

·015] Therefore, in this invention, in addition to an effect of the invention according to claim 1 to 4, remote operation a specific terminal unit or an interface device is enabled, and the effect that the operability of the whole network ·stem can be raised further arises. Invention according to claim 6 is two or more of other terminal units and the ›nnected terminal unit, and is characterized by to have an information acquisition means acquire the information on ese terminal units of other from other terminal units connected through the above-mentioned network, and an formation transmitting means transmit the information on a terminal unit besides the above acquired by this formation acquisition means to the above-mentioned network with information of a terminal unit own [the] through

e network.
016] The terminal unit of this invention can transmit to a network the information on a terminal unit besides the ove acquired by the information acquisition means with information of a specific terminal unit own [the] by the formation transmitting means while acquiring the information on these terminal units of other from other terminal its connected through the network by the information acquisition means.
017] For this reason, if it is used for the network system equipped with two or more terminal units by which the rminal unit of this invention was connected to the network, and the management equipment which manages each of is terminal unit through the above-mentioned network, the same effect as invention according to claim 1 will arise. oreover, the terminal unit of this invention as well as a terminal unit according to claim 1 must not acquire all the formation on the terminal units of the others connected through the network, and may acquire the information on me terminal units.
018] In addition to composition according to claim 6, invention according to claim 7 is characterized by the formation on a terminal unit besides the above including the link information for specifying the terminal unit on the ove-mentioned network. Thus, the information on a terminal unit besides the above as used in the field of this vention includes the link information of the terminal unit. For this reason, in the reason same with having explained is invention in relation to invention according to claim 2, in addition to an effect of the invention according to claim the amount of information processing of an information acquisition means and an information transmitting means is itigated further, and the effect that the processing speed can be raised further arises.
019] The storage according to claim 8 is characterized by memorizing the software program for operating a computer each means **, the claims 3 and 4 which constitute the above-mentioned management equipment, or given in five. r this reason, if the computer of the management equipment which manages two or more terminal units containing e above-mentioned specific terminal unit through a network is made to execute the software program memorized by e storage of this invention, a computer can be operated as each means claims 3 and 4 or given in five, and the twork system of a publication can be easily realized to it at the claim.
020]
mbodiments of the Invention] Next, the form of operation of this invention is explained with a drawing. In addition, e form of the operation explained below is an example of the form which applied this invention to the network stem managed using the so-called WWW (broader-based information system which built the hypertext on the twork and was made accessible to all information).
021] Here, when the outline is explained about Above WWW, the WWW concerned is other computers (computer hich is a computer equipped with a WWW browser and a called program (program for perusing the established state the above-mentioned terminal unit etc. one by one for every terminal unit), peruses and grasps the state of each rminal unit, and manages a network by this.) about network administration information on a terminal unit like the inter in the form of this operation. a following and browser computer -- calling -- it is an information system for anaging unitary And in order to express the state of each terminal unit, the picture and alphabetic information which ow the state concerned using the software called hypertext are expressed. Moreover, as a protocol used for mmunication between a browser computer and each terminal unit, the so-called HTTP is used and the language lled HTML (Hyper Text Markup Language) is used as a language which expresses a hypertext further, for example.
022] In the form of this operation moreover, on each terminal unit It has CGI (Common GatewayInterface) and the lled program. The CGI concerned constitutes HTML corresponding to the specification concerned by specification om a browser computer, or From a browser computer to a server computer (it prepares for NIC, and it is the ocessing section which offers data or control information to the printer connected to the NIC concerned, and this is ntained in the server computer about the above CGI for NIC.) Information transmitted (generally it is called form.) r example, when the user of a browser computer sets up the number of copies in a printer with "5", the form OPIES=5" is transmitted to CGI in a server computer from a browser computer. It is for interpreting. At this time, it ecifies by discriminating each terminal unit for specification of the terminal unit from a browser computer based on e identification information (it being identification information peculiar to each terminal unit, and having URL which different by the printer connected to NIC and it speaking of the form of this operation.) called URL.
023] Next, the composition of the network system S of the gestalt of this operation is explained using drawing 1 . In ldition, although all the printers 10-40 as a terminal unit are equipped with the composition of a specific terminal unit ce the after-mentioned in the network system S, it is good only also considering some printers as a specific terminal it.
024] As shown in drawing 1 , the network system S of the gestalt of this operation The networks W, such as the owser computer G as management equipment, the telephone line, or LAN Two or more NIC1 as an interface device, d the printers 10, 30, and 40 as a terminal unit, It is constituted by two or more computers 20 connected to the printer

) concerned, the image scanner 70 connected in parallel with a printer 40, and the form sorter 80 connected to the inter 40 in series. Here, printers 10, 30, and 40 are printers of a different model.

025] On the other hand, the browser computer G is equipped with CPU50, ROM51, and RAM52, and the mouse 53 id the CRT54 grade are connected. Moreover, NIC1 is equipped with the transceiver 2 as a reply means, the LAN ntroller 3, a shared memory 4, CPU5, ROM6 and RAM7, and a bus 8, and is. Here, ROM6 has memorized forehand HTML6a for NIC, and CGI6b for NIC to the interior.

026] Furthermore, the printer 10 is equipped with CPU11, ROM12 and RAM13, a bus 14, the output interface utput I/F) 15, the input interface (input I/F) 16, and the printing section 17. Here, ROM12 has memorized beforehand TML12a for printers, and CGI12b for printers to the interior. In addition, the printer 10 is connected to each mputer 20 through the input interface 16 while connecting with NIC1 through the connection line 9 connected to the is 14.

027] Next, outline operation in a network system S is explained using drawing 1 . In addition, in the following planation, although the processing in NIC1 and a printer 10 is explained, same processing is performed between her NIC1 and a printer 30.

028] CPU50 in the browser computer G generates the demand information (a request is only called hereafter.) for quiring information required in order to grasp the state of a printer 10 where NIC1 is connected, by browser mputer G from a printer 10, and transmits it to the transceiver 2 of NIC1 through Network W.

029] And the transceiver 2 which received the request restores to this, and outputs it to a bus 8 through the LAN ntroller 3. Here, if it illustrates concretely about the request concerned, the following will be transmitted as a request, r example.

030] ** "GET /nic/****.html HTTP/1.0 "** " GET /nic-CGI/****.exe HTTP/1.0 "** " GET /printer/****.html TTP/1.0 "** " GET /printer-CGI/****.exe In these examples, it is what shows that "GET" is a request. HTTP/1.0" -- ic", "nic-CGI","printer", and "printer-CGI" are URL, and "****.html" or "****.exe" is the object (generally it is lled a resource.) of management. It is the shown information (the name which shows various resources to the portion "****" is described.). "HTTP/1.0" is the version information on HTTP. URL ("nic" or "nic-CGI") which shows IC1 to the request concerned at this time -- or URL ("printer" or "printer-CGI") which shows a printer 10 -- that ther is added

031] Next, when the request which NIC1 received is a request containing URL which specifies a printer 10, CPU5 ansmits the request concerned to a printer 10 through a shared memory 4 and the connection line 9 (for example, hen URL of "printer" or "printer-CGI" is included like the example shown in the above-mentioned ** or **). After riting a request in a shared memory 4 in that case, CPU5 generates interruption (interruption instructions) to CPU11 rough the signal line which is not illustrated, and performs processing of the request concerned. In addition, the ntrol program required for the processing of CPU5 to the request mentioned above is beforehand memorized by OM6.

032] Next, if the request which specifies the printer 10 transmitted from NIC1 is inputted into a printer 10 through e connection line 9, CPU11 will process the request concerned using CGI12b for printers and HTML12a for printers hich are memorized in ROM12, after acquiring the request concerned through a bus 14. At this time, what processes ly by the HTML12a for printers concerned about what can be processed only by HTML12a for printers, and can be ocessed only by CGI12b for printers is processed only by the CGI12b for printers concerned. Then, CPU11 answers IC1 through a bus 14, the connection line 9, and a shared memory 4 in the response which is the result of processing. ie control program required for the processing of CPU11 to this request is beforehand memorized by ROM12.

033] Furthermore, NIC1 which received the response to the request which should be processed in a printer 10 from e printer 10 transmits the response concerned to the browser computer G through Network W as it is. And in the owser computer G which received the response from a printer 10, the picture or alphabetic information rresponding to the response received, respectively is displayed on CRT54, and the operating state of NIC1 concerned a printer 10 etc. is grasped.

034] In addition, although each printers 10, 30, and 40 contained in the network system S are equipped with common IC1, they are the things of a different kind as the printer itself, and, specifically, have become that from which HTML r printers or CGI for printers memorized by each printer differed for every printer. Moreover, other printers which e not illustrated through NIC of a model which is different in NIC1 are connected to Network W.

035] Next, a printer 10 answers the browser computer G in the response which included the information on a printer sides the above with the information on printer 10 self, when the information on other printers connected through etwork W, NIC, and NIC1 connected to self is acquirable and a predetermined request is received from the browser mputer G. Hereafter, this processing is explained in detail.

036] If the browser computer G specifies the IP address of one of printers (for example, printer 10) and has a return

:y pushed, it will start the processing shown in drawing 2 . First, the printer screen 200 of the printer 10 chosen by the address in S1 (: showing a step S is the same as that of the following) is displayed on CRT54. Here, an IP address is kind of the network address which makes each equipment identifiable on Network W.

037] So that it may illustrate to drawing 5 this printer screen 200 Image view 201 which shows the state of a printer sually, and the pilot lamp section 203 which shows the state of a printer red, yellow, and in the shape of [blue] a gnal, URL205 which shows the whereabouts of the information on a printer 10, and the model name 207 of a printer), The refreshment button 211 which can be clicked with the mouse 53 of a printer 10, the view configuration button 3, the control panel button 215, the printer setting button 217, the online support button 219, an administrator setting itton (It is hereafter called a manager setting button) 221, and the find device button 223 and ** are displayed.

038] Here, the refreshment button 211 is a button which the information on a printer 10 reads and directs curing. The ew configuration button 213 is a button for displaying the version information on a printer 10 etc. The control panel itton 215 is a button which displays the control panel of a printer 10 on CRT54, and operates the control panel by mote control. The printer setting button 217 is a button for carrying out various setup of a printer 10 by browser mputer G. The online support button 219 is a button for opening the homepage of the maker of a printer 10 and splaying support information. The manager setting button 221 is a button for displaying the below-mentioned NIC formation screen. The find device button 223 is a button for indicating the information on all the printers connected Network W by list.

039] The browser computer G transmits a status information demand to a printer 10 in processing of S1. CPU11 of a inter 10 is performing processing shown in drawing 3 , and it is answered as follows in information that a status formation demand is received. As shown in drawing 3 , CPU11 is performing loop processing which repeats whether there was any status information demand, whether there was any printer research demand (S41), and] dgment of ** by turns (S43), and if there is a status information demand (S41:YES), it will shift to S44. In S44, the itus information of the printer 10 by which self belongs is edited into a HTML file, the browser computer G is swered in the HTML file in S45 continuing, and it shifts to the above-mentioned loop processing (S41, S43).

040] The browser computer G displays the printer screen 200 illustrated to drawing 5 based on this status formation (S1). In S3 continuing, it judges whether one button of the printer screens 200 was pushed, and it stands by itil it is pushed. And a push on the find device button 223 displays the find device screen 300 illustrated to drawing 6 7).

041] The icon 301 and the information 303 on each printer on each printer connected to the network 301, this RL305, the model name 307, and the above-mentioned buttons 211-223 and the various buttons 310 of the almost me content are displayed on the find device screen 300 so that it may illustrate to drawing 6 . In addition, an icon 301 displayed in the same color as the color which has turned on the above-mentioned pilot lamp section 203.

042] Moreover, the browser computer G transmits a printer research demand to a printer 10 in this processing. Then, firmative judgment of CPU11 of a printer 10 is carried out in S43 of drawing 3 , and it shifts to S47. In S47, research ocessing of the its company printer shown in drawing 4 is performed.

043] As shown in drawing 4 , in this research processing, it judges whether information requirements were insmitted to each printer by the UDP/IP protocol (S91), and there was any reply in S93 continuing. When there is no ply, it judges whether (S93:NO) and the predetermined time which shifted to S95 and was set up beforehand passed, d if it has not passed (S95:NO), it returns to S93. If a reply is received between this loop processing of S93 and S95, firmative judgment will be carried out in S93, and it will shift to S97. In S97, it judges whether it is a reply from a its mpany printer, and if it is not its company make, it will return to the above-mentioned loop processing (S93, S95) as is.

044] In addition, judgment of being this its company make is performed by inserting a printer maker's trademark etc. the reply as a keyword from the printer received in the information requirements transmitted in S91, and S93. oreover, each printer will generate a random number, if the above-mentioned information requirements are received, d after [corresponding to the random number] doing the number msec. standby of, the browser computer G is swered in the information on own. For this reason, the device information from each printer is answered by the owser computer G through Network W to the timing of the rose rose according to the above-mentioned random mber.

045] If it judges that it is a reply from a its company printer (YES) in S93, the information included in the reply in 9 will be stored in RAM13, and it will return to the above-mentioned loop processing (S93, S95). And if [above-entioned] predetermined-time continuation is carried out, affirmative judgment of this processing will be carried out S95, and it returns to processing of drawing 3 . Then, the information on a printer that storing of the information by 9 was made between the above-mentioned predetermined times in S49 continuing is edited into a HTML file, and e browser computer G is answered in the file by S45 continuing. In addition, an end of processing of S45 returns

ocessing of CPU11 to loop processing of S41 and S43 again.
046] In S7 of drawing 2 , the find device screen 300 is displayed based on the information on each printer which rried out in this way and was received. It stands by in S9 continuing, performing [judge whether the icon 301 was :cked and] other processings (S11:, for example, processing corresponding to the depression of the various buttons 0) until it is pushed. And if any one of the icons 301 is clicked (S9:YES), it will shift to S1 and printer screen 200a lrawing 7) corresponding to the clicked icon 301 will be displayed. Since this printer screen 200a is the same as that what was shown in drawing 5 almost, suffix a is given to the sign showing each part, and detailed explanation is nitted. In addition, in printer screen 200a, display 233a which shows the generating position of display 231a which rects generating of a jam, and a jam by blink was made by image view 201a, and red has turned on pilot lamp section 3a to it. In printer screen 200,200a, the state of a printer is displayed in this way.
047] Moreover, if manager setting button 221,221a is pushed by printer screen 200,200a, it will shift to S13 from S5 drawing 2 , and the NIC information screen 400 (drawing 8) will be displayed. On this NIC information screen 0, the information on NIC1 is displayed and various processings, such as update of a firmware and an environmental tup of NIC, can be performed. URL405 of NIC1 is displayed on this NIC information screen 400, and the Home tton 407 for returning to printer display screen 200,200a below is displayed on it.
048] Then, in S15 following S12, it judges whether the Home button 407 was pushed, and when pushed, it returns to S15:YES) 1, and printer screen 200,200a is displayed. Moreover, when the Home button 407 is not pushed, other ocessings (for example, update of a firmware) based on (S15:NO) and other operations are performed, and it shifts to 5 again. Moreover, when other buttons 211,211a-221,221a are pushed in printer screen 200,200a, it shifts to S19 m S5, other processings according to the button grabbing are performed, and the further button depression is stood (S3).
049] Thus, in the network system S of the gestalt of this operation, each printer transmits the acquired information to browser computer G with the information on own while acquiring the information on these printers of other from ier printers connected through Network W. For this reason, by browser computer G, the information on a printer sides the above is also acquirable with the information on the printer only by acquiring information from one printer. a network system S, the information on a printer can be acquired efficiently, without using a server computer.
050] Moreover, in the network system S, the browser computer G is answered with status information in URL of ch printer. If even link information, such as URL (a link information is sufficient), is known, based on the link formation, the detailed information on a printer is easily acquirable. For this reason, in a network system S, the ount of information which each printer must acquire from other printers, and the amount of information which must transmitted to the browser computer G can be reduced. The amount of information processing of a system can be tigated further, and the processing speed can be raised further.
051] Moreover, in a network system S, after being able to choose the printer which acquires information by clicking icon 301 and pushing the find device button 223, the printer chosen by clicking the icon 301 of other printers can so be changed. For this reason, there is comparatively little amount of information mutually acquired between inters, and it ends. That is, a desired printer can be chosen if needed and detailed information, such as information on C1, can be acquired by the selection.
052] Furthermore, in a network system S, the NIC information screen 400 can be displayed and the information on C as an interface device can also be acquired. For this reason, management of NIC becomes easy, a firmware is dated and the work of making a printer upgrade etc. can also be done very easily. And a setup of the printer or NIC n be changed also on printer screen 200,200a or the NIC information-display screen 400. For this reason, it becomes ssible to manage a printer and NIC by remote operation.
053] In the gestalt of the above-mentioned implementation processing of S47 and drawing 4 In addition, information quisition processing, Information transmitting processing and the processing at the time of icon 301 depression [in / / in processing of S45] Terminal unit selection processing, Selection change processing and processing of S13 terface information acquisition processing, [the processing which results in S9 through S5 to S7] The processing at time of control panel button 215,215a in S19 or a printer setting button 217,217a depression is equivalent to a tting change means, respectively.
054] Moreover, this invention is not limited to the form of the above-mentioned implementation at all, and can be rried out with forms various in the range which does not deviate from the summary of this invention. For example, printer 10 grade in a network system S must not acquire all the information on the terminal units of the others nnected through Network W, and may acquire the information on some printers. For example, you may make it me printers acquire the information on all the scanners of others [scanners / some] for the information on all other inters, respectively by the system which connected two or more printers and two or more scanners to Network W as a minal unit.

055] Moreover, as a storage which memorized each processing of a publication to drawing 2 - drawing 4 , various rms besides elements, such as ROM and RAM, can be considered. For example, CD-ROM, a FUROPI disk, a agneto-optic disk, a hard disk, etc. are sufficient, and you may be a file server on the Internet. Moreover, it can be ed, making the storage of this invention able to read into personal computer (personal computer) equipment. rthermore, this invention is applicable not only to the so-called print system which used the printer but various twork systems, such as an online karaoke system.

---

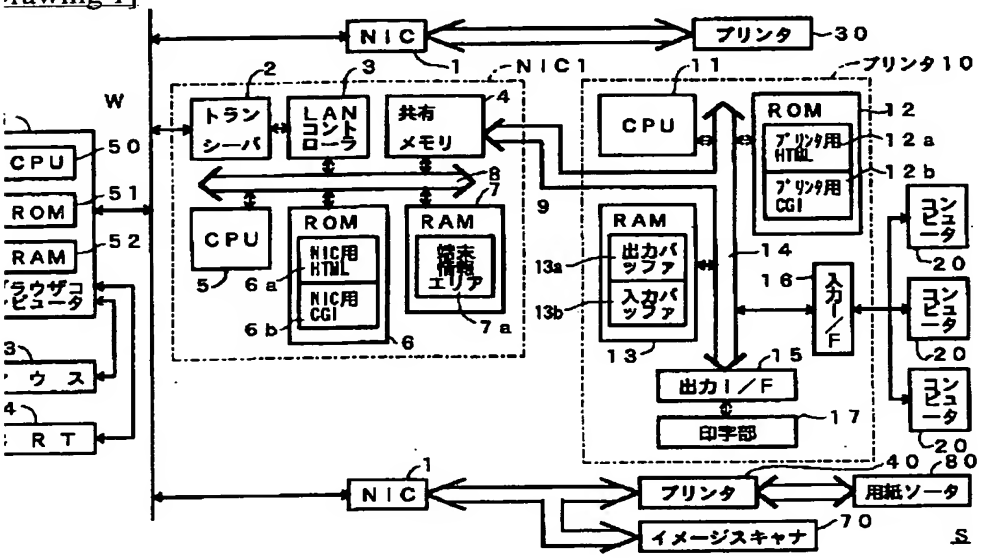
ranslation done.]

NOTICES *

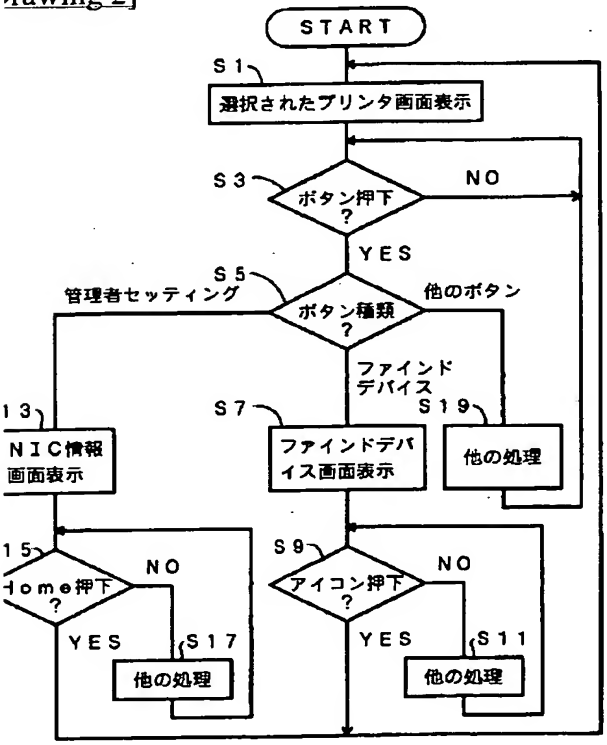
This document has been translated by computer. So the translation may not reflect the original precisely.
**** shows the word which can not be translated.
In the drawings, any words are not translated.

DRAWINGS

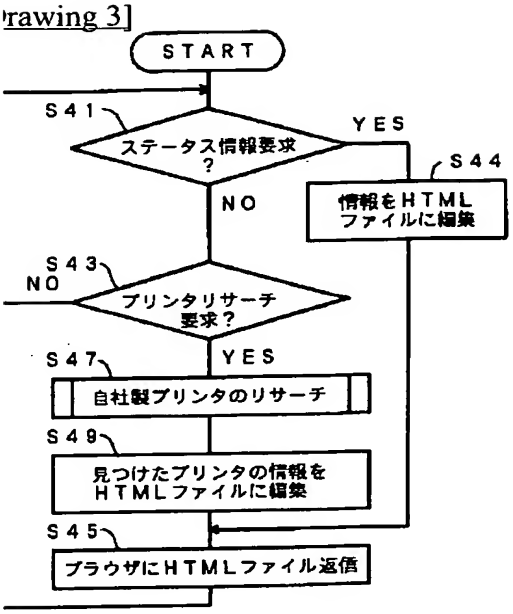
Drawing 1]



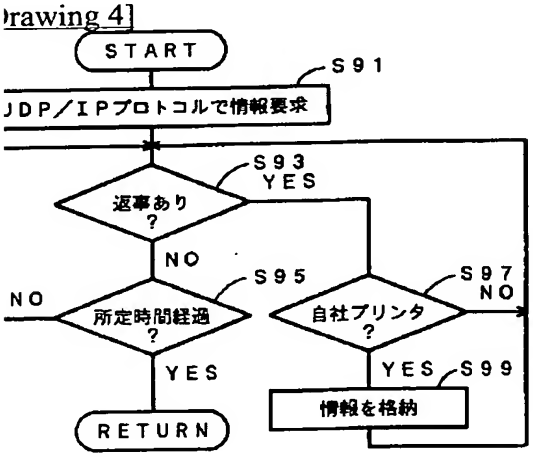
Drawing 2]



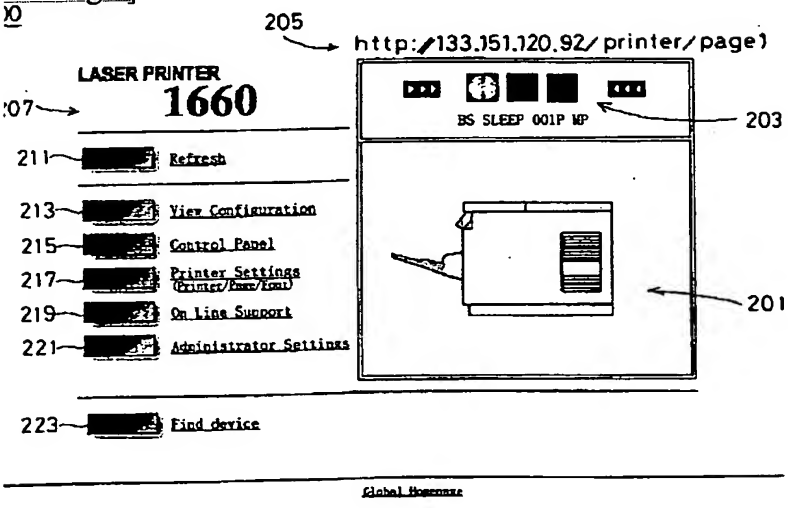
Drawing 3]



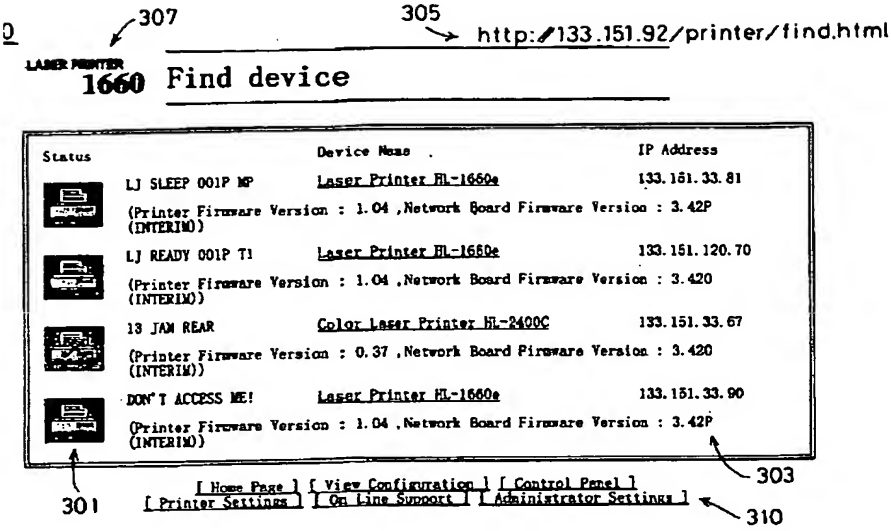
Drawing 4]



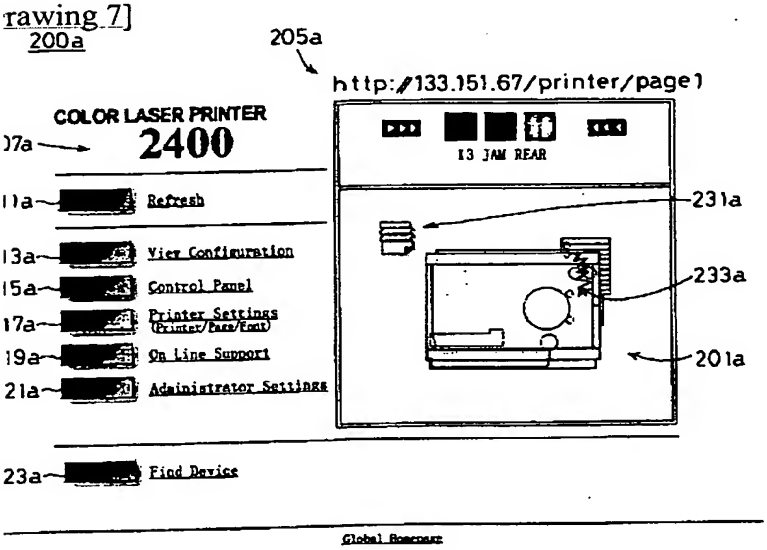
Drawing 5]



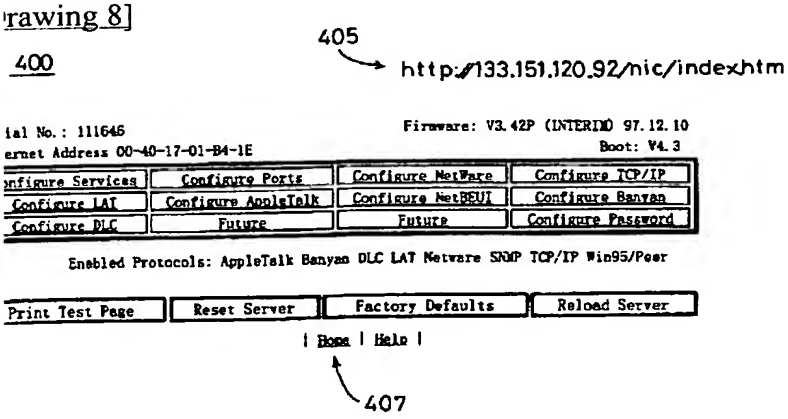
Drawing 6]



rawing 7]



rawing 8]



ranslation done.]